IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	10/530,703
Applicant	:	Stephen Kerr
Filed	:	September 23, 2005
Group Art Unit	:	3731
Confirmation No.	:	7745
Examiner	:	Amanda S. Adams
Docket No.	:	127272.00311
Customer No.	:	21269

Title: LAPAROSCOPIC DIRECT VISION DISSECTING PORT

AMENDMENT AND RESPONSE TO OFFICE ACTION

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is a response to the Non-Final Office Action dated August 21, 2006. This response is timely filed by virtue of the enclosed Petition for Extension of Time, extending the time for response through and including February 21, 2007, thereby extending by three months the deadline set in the Official Action. The fee required is set forth in the accompanying fee calculation sheet. Please charge any additional fees relating to this amendment to Deposit Account No. 50-0436.

The following amendments and remarks are respectfully submitted for the Examiner's consideration. Please amend the above-identified application as follows.

Amendments to the claims begin on page 2 of this paper.

Remarks begin on page 8 of this paper.

CLAIMS

1. (Currently amended) A dissector device useful for dissecting a tissue comprising:

an elongated housing having proximal and distal ends and a lumen, said distal end being operative to be inserted within a surgical incision, said housing further being operative to receive a viewing device within the lumen ~~thereof~~ and orient the viewing device to view through the distal end of said housing;

a tissue spreading dissector mechanism formed upon said distal end of said housing, said tissue spreading dissector mechanism operatively transitional between: a first neutral configuration wherein said tissue spreading dissector mechanism extends from the distal end of said housing; and an operative configuration wherein said tissue spreading dissector mechanism extends outwardly ~~relative to~~ beyond the circumference defined by said distal end of said housing; and

an actuator mechanism formed upon said proximal end of said housing operative to selectively cause said tissue spreading dissecting mechanism and tissue spreaders to selectively transition between said neutral and operative configurations.

2. (Previously presented) The dissector of claim 1 wherein said tissue spreader dissecting mechanism comprises opposed blade members operative to extend in diametrically opposed directions from said distal end of said housing when said tissue spreader dissecting mechanism assumes operative configurations.

3. (Previously presented) The dissector of claim 2 wherein said dissector further includes a clamp mechanism for securably holding said viewing device into position within said lumen of said housing.

4. (Previously presented) The dissector of claim 3 wherein said clamp mechanism is formed upon said proximal end of said housing.

5. (Previously presented) The dissector of claim 1 wherein said housing further includes a stop member formed within the lumen thereof for limiting the distance said viewing device or endoscope can extend distally within said tubular housing.

6. (Previously presented) The dissector of claim 1 wherein said actuator mechanism is an actuator bar operatively coupled to handle members and said tissue spreading dissector mechanism, said actuator bar being operative to cause said tissue spreading dissector mechanism to selectively transition between said neutral and operative configurations when said handle members are actuated.

7. (Previously presented) The dissector of claim 1 wherein said tissue spreading dissector mechanism comprises a first pair of arms pivotally mounted to an actuator rod and a second pair of arms coupled to said first pair of arms and operative to pivot outwardly relative to said first pair of arms, said second pair of arms having tissue spreader members formed on the respective ends thereof that are operative to transition from said neutral and operative configurations as said first and second arm members pivotally move relative to one another.

8. (Previously presented) The dissector of claim 1 wherein said dissector further comprises a channel formed therein for administering an insufflative gas.

9. (Previously presented) The dissector of claim 1 wherein said dissector is capable of being axially received within a port.

10. (Previously presented) The dissector of claim 9 wherein said dissector is insertable through a port or cannula.

11. (Previously presented) The dissector of claim 2 wherein said opposed tissue spreader blade members cooperate to define a conical-shaped configuration when assuming said first neutral position.

12. (Previously presented) The dissector of claim 2 wherein said opposed tissue spreader blade members are provided with serrated cutting edges.

13. (Previously presented) The dissector of claim 2 wherein said opposed tissue spreader blade members are provided with at least one void formed thereon defining a channel through which said viewing device can view the distal end of said housing.

14. (Previously presented) The dissector of claim 1 wherein the tissue spreaders of the tissue dissecting mechanism are in electrical communication with a source of electric current, said tissue spreader used for selectively cauterizing tissue.

15. (Currently amended) A dissector device useful for dissecting a tissue comprising:

an elongated housing having proximal and distal ends, said distal end being formed from a substantially transparent material and operative to be inserted within an incision on a patient, said housing further being operative to receive and securably hold a viewing device within the lumen thereof and orient the viewing device to view through the distal end of said housing;

a plurality of flap members formed upon the distal end of said housing, said flap members being operatively transitional between: a first closed position wherein said flaps collectively ~~defined~~ define a generally closed configuration; and an operative configuration wherein said flap members extend radially outward about said distal end of said housing; and

an actuator mechanism formed upon said proximal end of said housing operative to selectively cause said flap members to selectively transition between said closed and operative configurations.

16. (Previously presented) The dissector of claim 15 wherein said flap members include a metal reinforcement formed therein for imparting structural rigidity thereto.

17. (Previously presented) The dissector of claim 16 wherein said metal reinforcement comprises a spring operative to bias the flap members to the closed configuration.

18. (Previously presented) The dissector of claim 15 wherein said flap members include a sharpened gripping surface formed on the surface thereof.

19. (Previously presented) The dissector of claim 15 further comprising an actuator operatively coupled to said actuator mechanism and said flap members, said actuator being operative to cause said flap members to selectively transition between said closed and operative configurations when said actuator mechanism is actuated.

20. (Previously presented) The dissector of claim 19 wherein said actuator comprises an elongated cylindrical sleeve disposed within said housing and having a distal end in abutment with said flap members, said distal end of said cylindrical sleeve being operative to advance distally within said tubular housing such that said flap members transition from said closed to operative configurations.

21. (Previously presented) The dissector of claim 15 wherein said actuator mechanism further comprises a locking mechanism to cause said flap members to assume said operative configuration.

22. (Previously presented) The dissector of claim 21 wherein said locking mechanism is formed upon the actuator mechanism of said port.

23. (Previously presented) The dissector of claim 15 wherein said distal end includes at least two flap members formed thereon.

24. (Currently amended) The dissector of claim 15 further comprising an elastic sheath formed radially about said plurality of flap members such that said flap members are biased to the closed configuration.[.]

25. (Previously presented) The dissector of claim 15 further comprises an elastic, sheath affixed to said flap members, said sheath being operative to form a covering about the opening of said distal end of said housing when said flap members assume said operative configuration.

26. (Previously presented) The dissector of claim 15 wherein said housing is a cannula.

27. (Previously presented) The dissector of claim 15 wherein said housing is able to accommodate an existing endoscope.

28. (Previously presented) The dissector of claim 15 wherein said flap members are formed to have an increased sidewall thickness extending toward said distal ends thereof.

29. (Currently amended) The dissector of claim ~~15~~ 16 wherein said metal reinforcement comprises a plurality of distally-extending leaf spring members operative to bias the flap members to the closed configuration.

30. (Currently amended) A dissector device useful for dissecting a tissue comprising:

an elongate housing having proximal and distal ends and a lumen, said distal end being operative to be inserted within a surgical incision, said housing being further operative to receive an actuator and a viewing device within the lumen ~~thereof~~ and orient the viewing device to view through the distal end of said housing;

tissue spreaders formed upon the distal end of said housing for cutting or ~~griping~~ gripping tissue and operatively connected to a tissue spreader dissecting mechanism; said tissue spreader dissecting mechanism operatively transitioning said tissue spreaders between: a closed configuration wherein said tissue spreaders collectively define a generally closed configuration; and an operative configuration wherein said ~~flap members~~ tissue spreaders extend radially outward about said distal end of said housing; and

an actuator mechanism formed upon the proximal end of said housing and operatively connected to an actuator within said housing, said actuator operatively connected to said tissue spreader dissecting mechanism and operative to transition said tissue spreaders between said operative and closed configurations.

31. (Previously presented) The dissector of claim 30 wherein said tissue spreaders are a plurality of flap members.

32. (Previously presented) The dissector of claim 30 wherein said tissue spreaders are arcuate blades.

33. (Previously presented) The dissector of claim 30 wherein said housing is tubular.

34. (Previously presented) The dissector of claim 30 wherein said tissue spreading mechanism comprises a lever.

35. (Previously presented) The dissector of claim 30 wherein said tissue spreading mechanism comprises a ramp.

36. (Previously presented) The dissector of claim 30 wherein said viewing device is an endoscope.

37. (Previously presented) The dissector of claim 30 wherein said housing further comprises a clamp for securing a viewing device.

38. (Previously presented) The dissector of claim 30 wherein said housing further comprises an inlet for gas insufflation of a body cavity.

39. (Previously presented) The dissector of claim 30 wherein said actuator mechanism further comprises a latch for securing the actuator in an operative configuration.

40. (Previously presented) The dissector of claim 30 wherein the flap members of the tissue dissecting mechanism are in electrical communication with a source of electric current, said flaps used for selectively cauterizing tissue.

41. (Previously presented) The dissector of claim 40, wherein said tissue is a blood vessel.

REMARKS

Claims 1-41 are currently pending in the present application. Claims 1, 15, 24, 29, and 30 have been amended. Support for the amendments for claims 1, 15, 29 and 30 can be found, for example, in Figure 12, and in the specification at, for example, paragraph 67. Claim 24 has been amended to correct a typographical error.

I. *Rejection Under 35 U.S.C. § 112, Second Paragraph*

The Examiner has rejected claim 1 under 35 U.S.C. § 112, second paragraph, as lacking antecedent basis for "the lumen." Additionally, the Examiner has rejected claim 29 as lacking antecedent basis for "said metal reinforcement". Claims 1 and 29 have been amended to recite proper antecedent basis. Applicants respectfully request that the rejections under 35 U.S.C. § 112, second paragraph be withdrawn.

II. *Rejection Under 35 U.S.C. § 102(b): Kan*

The Examiner has rejected claims 1, 2, 9-11, 15, 19, 23, 26, 27, 30-33 and 36 under 35 U.S.C. § 102(b) as anticipated by Kan et al. (U.S. Patent No. 6,497,651, "Kan"). Applicants respectfully traverse the rejection.

A. Kan does not describe a tissue spreading dissector mechanism that extends radially outwardly or beyond the circumference of the housing

Claim 1 has been amended to more clearly describe the operative configuration of the tissue spreading dissector mechanism of the device. Claim 1 recites a dissector device comprising an elongated housing that is operative to receive a viewing device within its lumen. The device also comprises a tissue spreading dissector mechanism transitional between a first neutral position and an operative configuration. In the operative configuration, the tissue spreading mechanism extends outwardly beyond the circumference defined by the distal end of the housing. See, for example, paragraph 67 and Figure 12 of the present application (indicating outward extending motion by arrows at "D").

Similarly, Claim 15 of the present application recites a dissector device having flap members that transition between a closed position and an operative configuration. In the operative configuration, the flap members extend radially outward about the distal end of the housing. The fully extended position is shown, for example in Figure 2, which shows tissue spreaders or flap members that radially spread out in the direction indicated by "A" in the figure. See also paragraph 51 of the specification. Additionally, Claim 29 recites a dissector device having tissue spreaders that transition between a closed position and an operative configuration wherein the tissue spreaders extend radially outward about the distal end of the housing.

The claimed invention, having tissue spreaders or flap members that extend beyond the circumference defined by the distal end of the housing or radially outward about the distal end of the housing when in an operative configuration, is designed to facilitate tissue spreading and dissection under direct viewing. The claimed invention further permits direct vision while the device is transitioning between a neutral/closed and operative configurations.

Kan does not disclose all elements of the claims. Kan does not disclose a tissue spreading mechanism that extends beyond the circumference defined by the distal end of the housing, as recited in claim 1, or flap members or tissue spreaders that extend radially outward about the distal end of the housing, as recited in claims 15 and 30, respectively. Kan discloses scoop-like members that project only as far as the circumference of the hollow tube, and not beyond it. Applicants respectfully submit, therefore, that Kan does not anticipate the present claims, and respectfully request that the rejection under 35 U.S.C. § 102(b) be withdrawn.

III. *Rejections Under 35 U.S.C. § 103*

The Examiner has rejected the remaining claims as unpatentable under 35 U.S.C. §103 over Kan in view of various additional references. Specifically, the Examiner has rejected claims 3-5 and 37 as unpatentable over Kan in view of Privitera et al. (U.S. 5,569,291); claims 7, 21, 22, 34, 35, and 39 as unpatentable over Kan in view of Wilk (U.S. 5,511,564); claims 6, 14, 40, and 41 as unpatentable over Kan in view of Yoon (U.S. 5,843,017); claims 8, 20, and 38 as unpatentable over Kan in view of Ko (U.S. 5,354,302); claims 12 and 18 as unpatentable over

Kan in view of Brown et al. (U.S. 5,201,752); claims 13 and 28 as unpatentable over Kan in view of Erb et al. (U.S. 6,436,119); claims 16, 17, and 29 as unpatentable over Kan in view of Yoon and further in view of Makower et al. (U.S. 5,683,349); and claims 24 and 25 as unpatentable over Kan in view of Pena (U.S. 5,178,133). Applicants respectfully traverse each of the rejections.

As discussed above, the claims of the present invention each recite a device having an operative configuration wherein a tissue spreading mechanism extends outwardly beyond the circumference defined by the distal end of the housing or extends radially outward about the distal end of the housing. As discussed in the present application, an advantage provided by the invention is the ability of the device to selectively dissect through succeeding layers of tissue as the device is made to penetrate toward a target tissue. See, e.g., specification, paragraphs 52-53, 63, 67. This function is provided by transitioning the device between a neutral or closed configuration and a radially outward extending operative configuration. A combined dissecting and spreading action facilitates layer by layer penetration that has improved safety over prior devices.

As discussed above, Kan does not teach or suggest all elements of the present claims. Furthermore, none of the references correct the deficiencies of Kan. For example, the Examiner has not provided any motivation to modify the device of Kan to provide an operative configuration wherein the scoop-like members extend outwardly beyond the circumference defined by the distal end of the housing, or wherein the scoop-like members extend radially outward about the distal end of the housing, as in the presently claimed invention.

The Kan device in the operative configuration creates a space in which an operating tool can access a targeted tissue area. See Kan at 2:6-9; 3:58-62. The scoop-like members of Kan do not extend beyond the outer diameter of the hollow tube from which they extend. See Kan at 3:31-34; Figure 1C. Kan does not provide any suggestion to modify the scoop-like members to extend beyond this point, as the disclosed device provides the desired function. Moreover, none of the remaining references cited by the Examiner provide any motivation to modify the device of Kan to provide the presently claimed invention. Applicants

respectfully submit that the claims are not obvious and are in condition for allowance, and request that each of the rejections under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

Applicants respectfully submit that the pending claims are in condition for allowance and notice to such effect is respectfully requested. The Commissioner is hereby authorized to charge Deposit Account No. 50-0436 for any additional fees that may be due in connection with this response.

Should the Examiner have any questions or comments, or need any additional information from Applicant's attorney, he is invited to contact the undersigned at his convenience.

Respectfully submitted,

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Date: February 21, 2007